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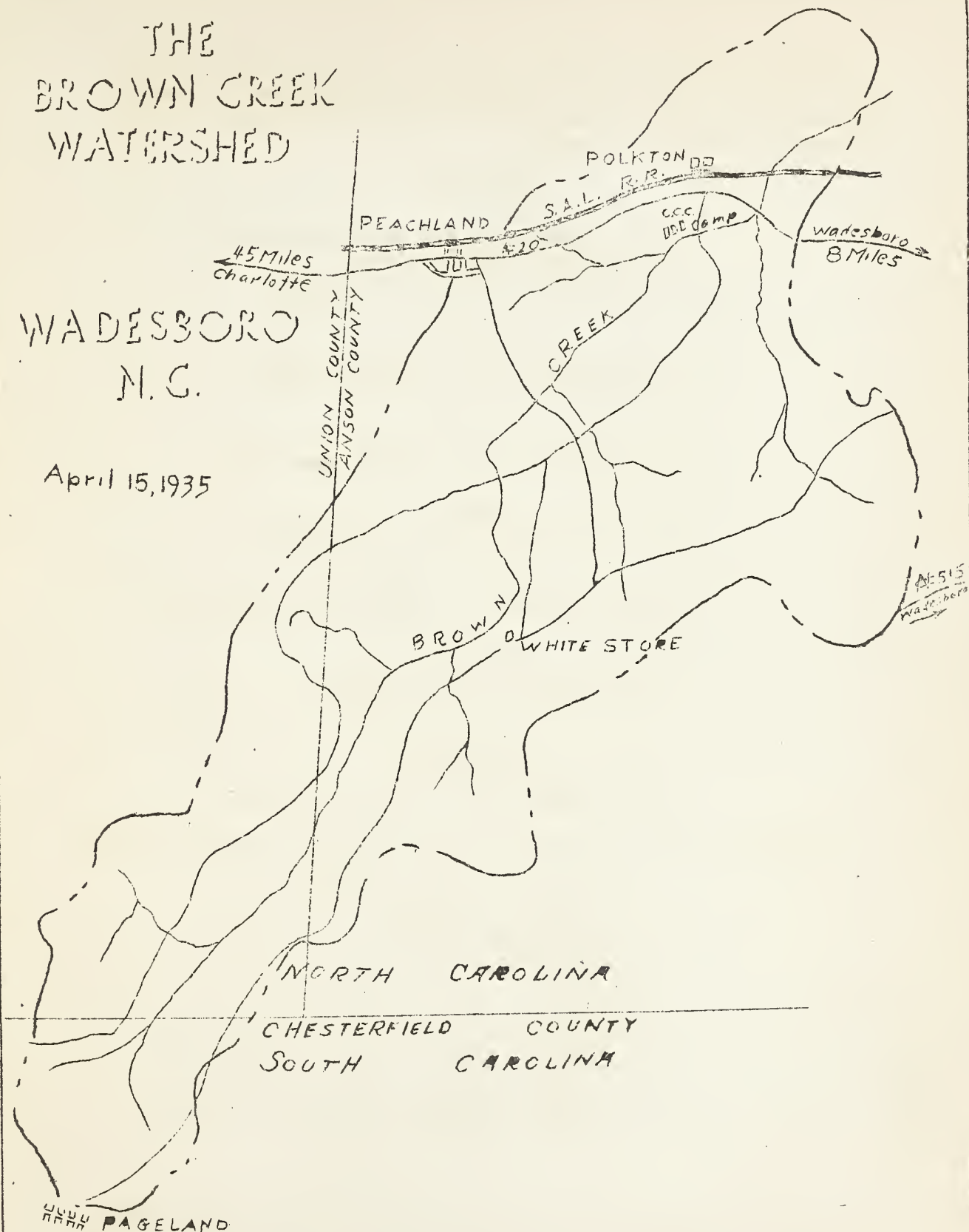
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# THE BROWN CREEK WATERSHED

WADESBORO  
N.C.

April 15, 1935



THE BROWN CREEK WATERSHED is being put out by the Soil Erosion Staff once each month, mainly to assist in telling what we are doing and maintain a spirit of good fellowship with the citizens of the community we endeavor to serve.

#### EXECUTIVE

E. S. Vanatta, Ass't. Regional Director  
H. W. Latham, Senior Clerk.  
Miss Daisy Lee Hart, Stenographer.

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W. B. Little, Ass't Extension Agent.

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H. M. Stott, Ass't. Erosion Specialist.

#### SOILS

R. C. Pleasants, Ass't Soil Expert.

#### AGRICULTURAL ENGINEERING

Donald Christy, Ass't Agricultural Engineer.

#### AGRONOMY

A. A. Cone, Ass't Agronomist.  
J. E. Michael, Ass't Agronomist.

#### FORESTRY

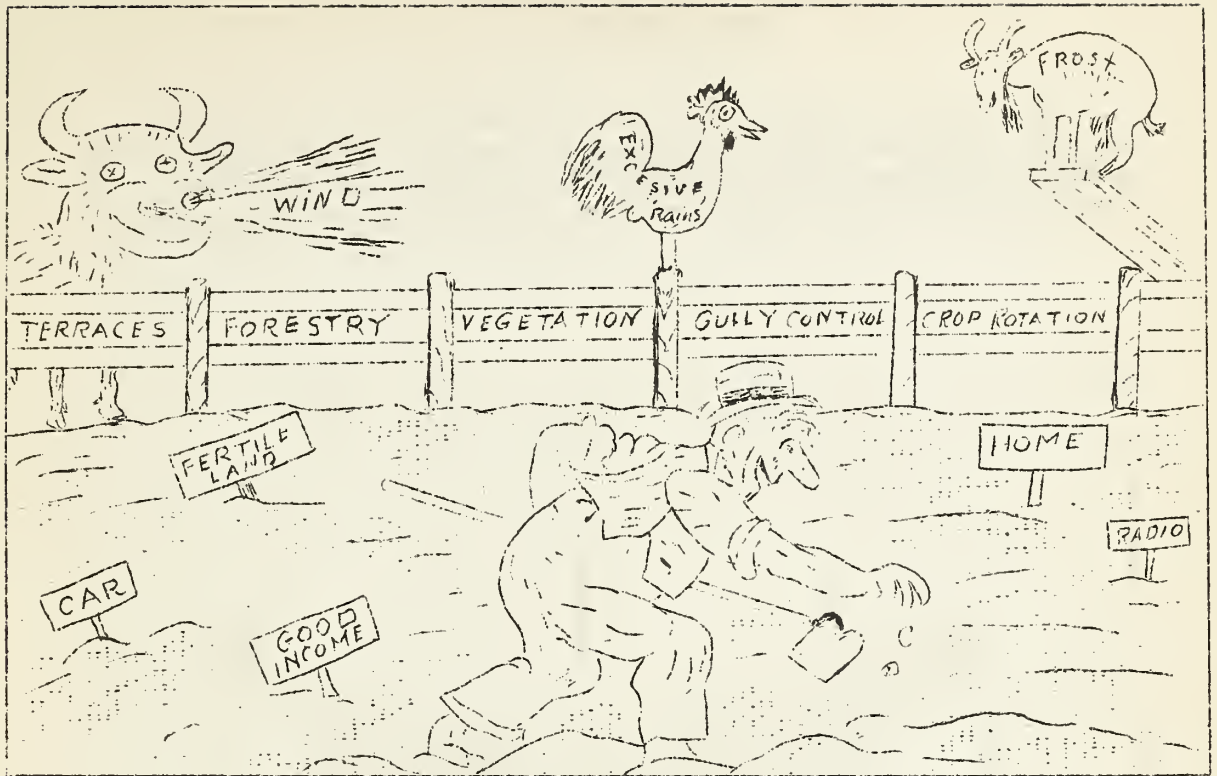
H. P. Hagge, Forester.  
L. B. Hairr, Ass't Agricultural Aide.

Directing personnel for the ECW Camp at Polkton are as follows:

W. B. McManus, Superintendent.  
R. B. Stamey, Engineer.  
S. W. Meyers, Foreman.  
S. J. Crocker       "  
C. S. Faw           "  
C. A. Neal          "  
C. W. Thompson     "  
M. L. Ross          "  
J. F. Martin       "  
B. W. Ingram, Mechanic.  
W. L. Teal, Clerk-Stenographer.

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Seventy per cent of the Brown Creek area is under cooperative agreement and we would have more but for the fact that contract writers have been called to the temporary duty of helping the farmers who have already signed get started with their plans.



Hoards of gullies now remind us  
 We should build our lands to stay.  
 And departing leave behind us  
 Fields that have not washed away.

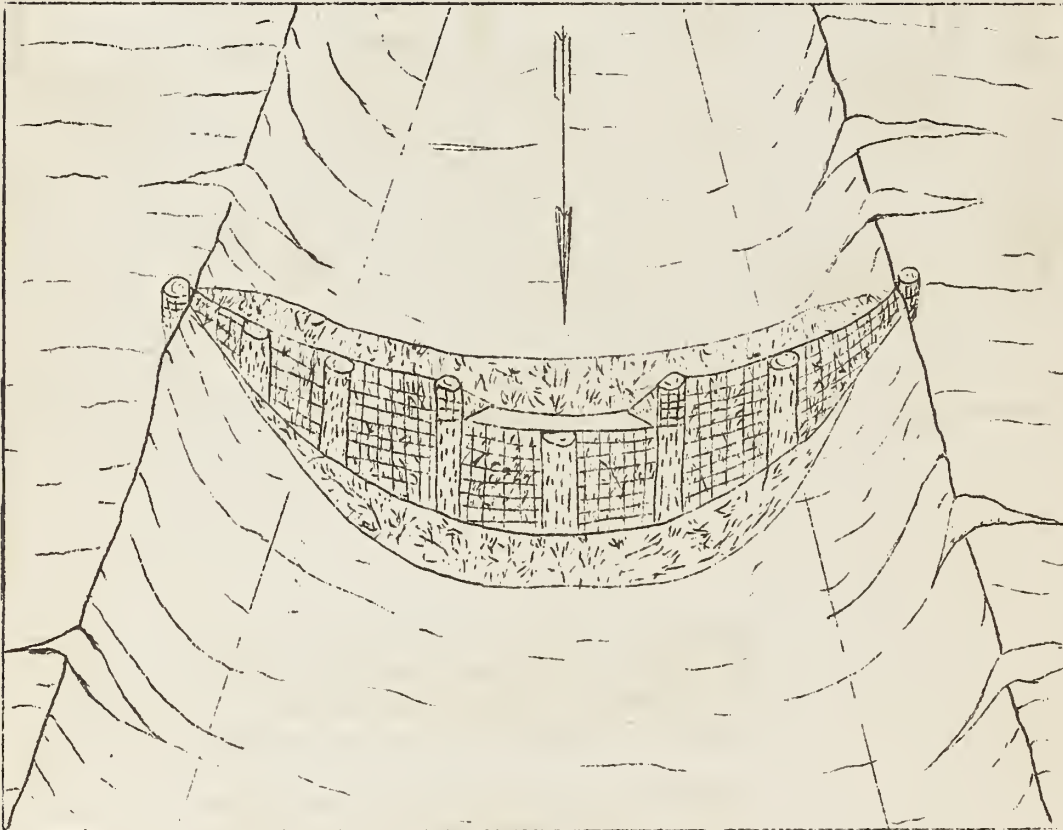
When our boys assume the mortgages  
 On the land that has had our toil  
 They won't have to ask the question -  
 "Here's the farm, but where's the soil?"

When slope of land increases from 3% to 12% the speed of water flowing over it is about doubled, the cutting power is multiplied by four, the power to carry soil is multiplied by thirty-two and the size of particles it can carry is multiplied by sixty-four.

## AGRICULTURAL ENGINEERING

Donald Christy

Sheet erosion means not only the loss of the most valuable organic elements of the soil which lie near the surface and affect greatly its water absorbing capacity and tilth, but also the equivalent of many dollars worth of soluble plant foods per acre.



The wire check dam is an excellent structure for gully control work. One to two rods of  $\frac{1}{2}$ " medium weight 6" vertical stays and 9 line wire, woven wire fence is best. This can be obtained at a cost of forty to seventy-five cents. These should not be high (18"-24") but should hold enough water and silt to allow vegetation to get a good start. Straw or litter should be parked behind the dam and then dirt tramped on top of this. The apron can be of brush staked down, or of logs, brush or other handy material. The posts should be spaced about 3 feet apart and should be set about  $2\frac{1}{2}$  to 3 feet in the ground.



SOILS DEPARTMENT  
R. C. Pleasants.

The detail soil survey of the open land in the Brown Creek Watershed area has just been completed, which includes 28,193 acres. A similar soil survey of the forest in the area is being made, but in addition to giving the soil type, per cent slope and degree of erosion, the forest is classified according to timber and height.

In making a soil survey of the forest, several outstanding conditions are noticeable. The most critical one being the conditions that follow the forest fire. Forest fire not only destroys the timber and renders undesirable conditions for wild life, but it is the main factor that starts soil erosion in the forest. By observing erosion in the forest one will readily reach the conclusion that we must prevent forest fires if we expect to control erosion in our forests. In the virgin areas where fires have not occurred practically no accelerated erosion is observed, while in the recently burned areas sheet and gully erosion are in full swing. This difference in degree of erosion in the forests is due primarily to the burning of the grass, straw, leaves and other litter material. Where this material is burned the bare soil is exposed directly to the rain, which gives an increase in the velocity and amount of run-off, resulting in an increase in the amount of eroded soil. This litter material not only aids in water conservation and prevention of soil erosion, but is essential to the making of a fertile and profitable soil.

The great work of nature can also be observed in the forest areas that were burned several years ago. Some of the large gullies that were cut following a forest fire several years ago are now becoming stabilized by the growth of broom sedge, various grasses and trees.

Some of the areas which have been abandoned for the past four or five years also show very active erosion. The soils in these areas are generally not so fertile, being in a somewhat rundown condition. Where these conditions are found the small growth of trees seems to have difficulty in getting started as they should. This menace to our soil and young forest can be greatly reduced by planting lespedeza when the fields are first abandoned.

1935

1960



# Forestry News

Harold P. Hayge  
Forester



The timber in a crop of trees grown on old fields during the life of the owner and protected from fire and grazing should cut 30,000 to 40,000 feet per acre. The return on the stump should be 200 to 300 dollars per acre. The average yearly growth will be 400 to 600 board feet and the average money return is equivalent to about \$4.00 to \$6.00 per acre yearly.

Timber always increases in value and some lands are better suited for timber, young timber, well managed, with proper cutting and logging practices and protection against fire, will serve as an insurance policy or bank account. Many acres of land in the area will make more clear profit in timber than in any other use.

## FORESTRY DEPARTMENT ACCOMPLISHMENTS

Seven months ago the Forestry Department came to the Brown Creek Watershed and now with the completion of one of the major activities, forest tree planting, it seems proper that a resume of the activities be made.

A summary of the Forestry Department accomplishments taken from our reports up to April 4th shows the following:

70% of the Watershed under contract... 401 parcels of land, 46,978 acres. 126 farms have received forestry attention, their area totaling 15,334 acres. This is 32% of the farms under contract and 33% of the contracted area of the Watershed.

Acres planted, reforestation, 620 in plantation and gully planting.

Number of trees planted 641,070.

269,900, loblolly pine, 255,214 black locust, 22,278 slash pine, 6,574 cedar, 21,970 longleaf pine, 4,800 shortleaf pine, 6,826 black walnut, tulip poplar, red and white oaks, ash, catalpa, sapinum and others 53,508.

Square yards seeding, bank protection and eroded bare spots 2,615,552.

Number acres improved 50.

Number of cooperators - wildlife management 177.

Number of pine seed collected and extracted for state and federal nurseries 908 bu.

Number of bushels of deciduous tree seeds collected 74.

Number of shrubs planted for bank protection, terrace outlets, eroded odd corners, 77,784.

Square yards covered with the shrubs, 49,724.

Number of propagated cuttings in experimental planting plot for next fall planting season 79,100.

Number of seedlings in lining-out beds, 10,000 cedars, 50 bushels of walnut, 45 bushels of oak acorns, 11,000 pines (shortleaf, slash, loblolly)



## PRUNING AND CARE OF TREES.

A question that is often asked is, "How should I prune or improve the looks of my trees, especially shade trees?" It is very little trouble to train a tree into a good shape by using a pruning knife while the limbs are small, but it is usually difficult to reform a tree after it has grown to maturity. An individual who understands tree growth, however, can often reshape the top of a neglected tree to advantage; but many people, even men who make a business of tree trimming, know so little about it that they do more harm than good. More mature trees have been hurt by severe pruning than have been helped. Usually the worst treatment which may be given is cutting of the tops (heading back as it is called). Several lighter prunings will produce better results and will cost little if any more.

Changing the form of a tree by pruning should not be attempted. Each species has its own forms and no attempt should be made to change or distort a tree from its normal habit of growth. Successful pruning will accentuate rather than disguise a tree's characteristics. If a tree naturally grows too high it will be better to plant lower growing species near it and in a few years remove it entirely.

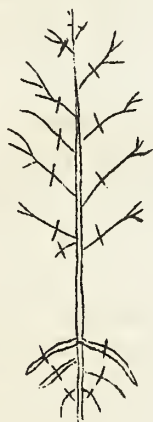
Of course dead or dying wood should be removed whenever it is found, no matter what the age of the trees. This should be done by cutting off the limb back to the nearest healthy crotch. A limb should not be cut off square-across unless the tree is apparently in a dying condition and the whole tree is treated thus in an attempt to save its life. In such a case a second pruning should follow within two years, at which time the stubs left

at the first trimming should be cut off in a proper manner near the newly started limbs. Usually when a tree needs excessive pruning of diseased limbs it should be cut down at once rather than subject the public to the dangers of the insidious decay that almost always follows the heavy pruning operation.

### DESIRABLE PRUNING AND TRIMMING METHODS FOR TREES.

The proper method of pruning broadleaf seedlings is almost uniform with all species and it is best described by the diagrams.

It should first consist of cutting off all injured branches with a sharp knife. If the injury is near the trunk of the tree the limbs should be cut close and even with the trunk, as shown in the diagram. When the injury is near the tops, only the injured parts should be removed



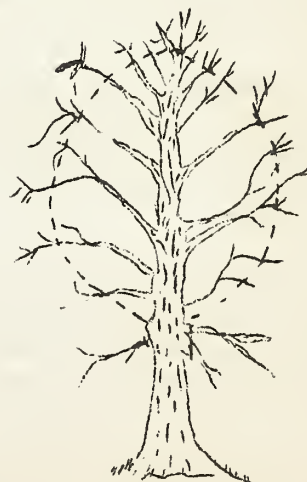
*Improper*



*Proper*



*Medium tree*



*Large tree*

## Agronomy Department

KUDZU.

- A. A. Cone -

Kudzu grows well upon almost any type of soil provided it is well drained. It will not grow on swampy or marsh land. Kudzu grows very satisfactorily on sandy or loamy soils and does well on clays. It being a perennial, grows somewhat slow at first, but it is not unusual after the plants are established for the vines to grow seven or eight inches every day throughout the entire summer season.

The value of kudzu for erosion control is due in a large measure to its habits of growth. Runners grow to a length of as much as sixty or seventy feet. These runners take root at the nodes and establish new plants. This is a very important characteristic where kudzu is to be used for gully control or covering badly eroded areas along shallow gullies where the top soil has been washed away. The plants can be set in rich soil several feet away from the gully or bare area, as may be desired, and they will spread to the areas to be protected. Kudzu runners climb down vertical banks and even cross gullies, whereas the runners of most other viny plants tend to grow upward, and, therefore, do not cover gullies as effectively.

Kudzu has the further advantage of being a valuable forage plant. It is eaten readily in either the green or the cured stalk by all classes of livestock. The analysis of Kudzu shows that it has approximately the same feeding value of alfalfa. This plant may be cut for hay at any time during its growth in the summer or fall, whereas other forage plants must be cut at the proper stage of development to avoid quality deterioration or even serious loss.

Kudzu is propagated by plants. Only plants with well developed, fleshy roots should be used. Care should be exercised in keeping plants moist from the time they are dug until they are set. If plants are allowed to dry before setting a large percentage of them will fail to live and grow.

Various methods of planting have been used. A very satisfactory one is as follows: Lay off rows eight feet apart and throw four furrows to each row to form a bed. Plant on top of these low beds, using a tree planting dibble to open holes for the plants. Be careful to get plants well into the ground so that the crowns will be approximately level with the surface of the ground after the soil is packed around them.

Kudzu meets the demand for a long-lasting leafy legume which produces good yields of palatable hay, one which can be grazed, and for one sufficiently resistant to drought to produce forage when other crops fail. Plantings of kudzu are recommended in places where erosion control is of prime consideration.

On slopes that are too steep or too badly eroded for profitable crop production, kudzu may be set in rows over the entire area. In addition to giving a protective cover for such land, kudzu will, after it is well established, produce a crop of good hay.

On fairly gentle slopes where the land is too badly eroded to be terraced and cultivated, kudzu will enrich the soil in a few years to an extent that it will again produce crops.



The April issue of The Progressive Farmer carried a very interesting short story which shows the trend of soil fertility over a period of twenty-three years where land is given proper and improper treatment. The Soil Erosion Service is endeavoring to carry out the proper treatment as is revealed in this short story on Plot No. 2 and we are endorsing the story and running it in the Brown Creek Watershed with the hope that Brown Creek area farmers may be greatly benefitted thereby.

### "A Legume Short Story: Three Chapters

We invite all who are weary and heavy laden with poor land to read a short story in three parts. It is the following record of two pieces of ordinary Southern land cultivated for 23 years on the Alabama Experiment Station:-

Chapter I.-Each plot received the same quantity of mineral fertilizer, namely, 160 pounds each of superphosphate and kainit annually, but-

Chapter II.-Plot No. 1 was never planted to legumes. Plot No. 2 was; each year it had cowpeas for a summer legume and vetch for a winter legume.

Chapter III.-And here are the results in seed cotton yields per acre over a 23-year period:-

	1. Without Legumes	2. With Legumes	Gain due to Legumes
First ten years	803 pounds	890 pounds	87 pounds
Second ten years	575 pounds	968 pounds	293 pounds
Third ten years	360 pounds	1,042 pounds	682 pounds

Note that both pieces of land started about equally rich and received the same quantity of fertilizer annually but that yields grew less and less on the non-legume land and climbed higher and higher on the legume rotated area. Poor, discouraged, legumeless Plot No. 1 without legumes fell to 360 pounds per acre of seed cotton. Rich, happy legume-fed Plot No. 2 rose to 1,042 pounds seed cotton per acre.

Nor does this tell the full story of the benefits from legumes and rotation. Land so poor that it produces only 360 pounds of seed cotton is not capable of producing any crop at a profit - except timber crops. On the other hand, on land that produces 1,042 pounds of cotton any farmer can make paying crops of corn, hay, small grain, or anything else.

"Richer Lands for Every Farm" is rightly placed as Plank No. 1 in "The Progressive Farmer's" platform. And there is hardly any better rule for getting richer lands than this: "A Soil-building Crop With or After Every Soil-robbing Crop." We can plant a hill of cowpeas or soybeans between each two hills of corn. We can sow clover vetch, or Austrian peas after cotton. We can sow lespedeza on all small grain crops in February and March. We can plant crotalaria or sow peas on land which soil-robbing crops have made so poor that it refuses to make a profit on any further crops at all. Let's plan now for legumes with or after all 1935 crops."

## RECENT WILD-LIFE ACTIVITIES

The wild-life conservation division has been busily engaged for the past month in sowing various lespedezas on numerous farms scattered throughout the area. Among the lespedezas being sown are Kobe, Korean, and serecea, all of which are very desirable in this program. The seeds have been sown in gullies, galled spots, field borders, and odd corners which the farmer would not cultivate. During the month of March approximately 32,000 pounds of lespedeza were distributed on almost 500 acres of farm land throughout the watershed. At present the division is trying to establish a good scattered stand of serecea lespedeza so that it will be with us for many years to come.

The farmers can easily aid our program of improving the environment for birds and desirable species of game if they will, when harvesting their lespedezas and other cover crops, leave little patches standing in the corners of the fields and along fence rows.

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## COOPERATIVE AGREEMENTS

--J. E. Michael--

With the rush of the spring seeding program over we will resume writing Cooperative Agreements on the remainder of the Brown Creek Area. Approximately 70% of the land in the area is already under agreement and it is the desire of the Soil Erosion Service officials that the sign-up of the area be completed by July 1st, 1935.

If you own land either open or timbered, in the area and have not already signed an agreement and wish to do so, notify the Wadesboro office and your request will be answered at the earliest time possible.

The land owners in the area have shown a fine spirit of cooperation both in their willingness to sign agreements and in carrying out their part of the program after the agreements have been signed, and in time, this area will become an outstanding example in the control of erosion, soil improvement and land use.

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Mr. H. W. Latham, recently with the Department of Agriculture and the Department of the Interior, at Washington, D. C., has been assigned to the Brown Creek Area as Senior Clerk. Mr. Latham has already assumed his duties at this office.

Mr. W. A. Murray, former clerk, has been transferred to the High Point office.

ECW CAMP SES NC # 2  
POLKTON, N. C.

The Agricultural Engineering, Agronomy and Forestry Departments have freely used our forces during the past month on a greatly diversified basis for the general program's benefit. These including generally terracing work, seeding, unloading lime, tree planting and wood lot improvement.

Our efforts have been made much easier during this period, due to the fact that a number of farmers have been liberal in their assistance in rendering aid by furnishing us with teams and man power to help on their farms; this we appreciate and trust that we will continue to have this splendid cooperation from the farmers in the Brown Creek area.

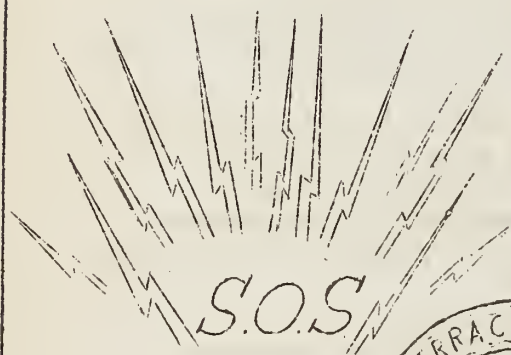
An important feature has been arranged for the landowner by the Forestry Department; that is the Cooperative arrangement with the County Fire Warden, wherein we are to furnish any or all of our forces in fire control should the occasion arise. Should anyone, within the Brown Creek Watershed area, have fires that are beyond control they should call upon us for assistance only as a final resort, this being accomplished after consulting your Fire Warden or one of his assistants. The Forestry Department has already issued detailed instructions on this matter.

We invite your visits, criticisms and suggestions.



# THE FARMERS DISTRESS CALL

Save Our Soil



UNCLE SAM'S

Answer

Soil Erosion Service



Un-controlled Erosion